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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,347

12/20/2005

Marco Castello

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HOGAN & HARTSON LLP  
IP GROUP, COLUMBIA SQUARE  
555 THIRTEENTH STREET, N.W.  
WASHINGTON, DC 20004

EXAMINER

LEO, LEONARD R

ART UNIT

PAPER NUMBER

3744

NOTIFICATION DATE

DELIVERY MODE

03/15/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

dcptopatent@hhlaw.com  
rogruwell@hhlaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/529,347	<b>Applicant(s)</b> CASTELLO, MARCO	
	<b>Examiner</b> Leonard R. Leo	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/05, 6/07, 9/07</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of the species of Figure 9 in the reply filed on October 20, 2009 is acknowledged. The traversal is on the ground(s) that applicant believes generic claim 1 contains the special technical feature. This is not found persuasive because as demonstrated by the rejection below, the generic claim lacks novelty, i.e. the generic claim does not contain a special technical feature.

The requirement is still deemed proper and is therefore made FINAL.

Claim 2 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “shaking means being arranged at said connection means” in claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 15 is objected to because of the following informalities: the recitation "said *separating* means" in line 2 should read -- said *separation* frame --. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12 and 14 recite the limitation "said collection tank" in line 2. There is insufficient antecedent basis for this limitation in the claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-6, 9-16, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kropp et al (GB 1,099,742). Figures 3-4 of Kropp et al discloses a heat exchange unit comprising a tube bundle 10 for heating water; containing means for a heating gas defined, in part by unlabelled vertical walls into which the bundle 10 extends (Figure 4, marked up below); and connection means 5 operatively connected to the upper end of the tube bundle 10 and structurally separate from the containing means.

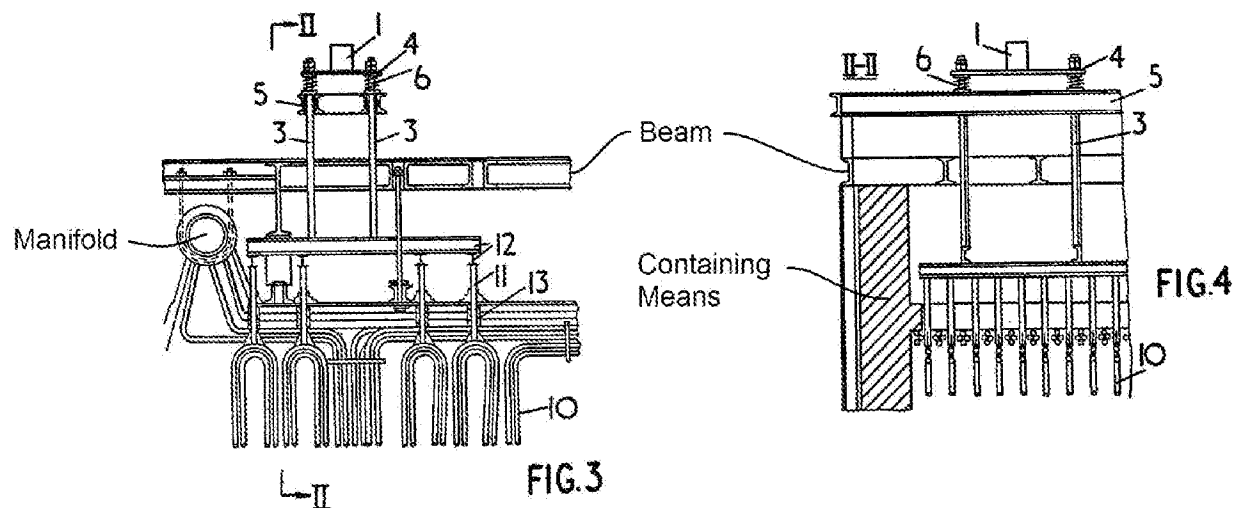
Regarding claim 3, the connection means 5 extends in a plane perpendicular to the vertically extending tube bundle 10.

Regarding claim 5, Kropp et al discloses shaking means 1 arranged at connection means 5.

Regarding claims 6, 12 and 14, the vertical wall extending above the unlabelled separating plate/frame (i.e. a brick lining) with fluid tight seals 13 is read as defining a part of a “collection tank.”

Regarding claim 9, Figures 3-4 (marked up, next page) of Kropp et al discloses the heat exchange apparatus including an unlabelled manifold connected to the tube bundle 10 is vertically supported by an unlabelled beam, which in turn is supported on top of the containing means.

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Regarding claims 10-11 and 13, Figures 3-4 (marked up, above) of Kropp et al discloses an unlabelled separating plate/frame (i.e. a brick lining) with seals 13 partially crossed by the tube bundle 10.

Regarding claim 15, it has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Regarding claim 16, Kropp et al discloses hooking means 3 arranged at the end of the tube bundle 10 and operably connected to connection means 5.

Regarding claim 18, Figure 3 of Kropp et al discloses the tube bundle 10 extending in a Z-direction (i.e. left to right).

Regarding claim 20, Kropp et al discloses the heat exchanger unit is for boiler units, i.e. steam production.

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Claims 1, 3, 5, 9, 16, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Denysenko et al. Denysenko et al discloses a heat exchange unit comprising a tube bundle 14 for heating water; containing means 11 for a heating gas; and connection means 24 operatively connected to the upper end of the tube bundle 14 and structurally separate from the containing means.

Regarding claim 3, Figure 2 of Denysenko et al discloses the connection means 24 extends perpendicular to the vertically extending tube bundle 14.

Regarding claim 5, Denysenko et al discloses element 50 which is read as “shaking means” arranged at connection means 24.

Regarding claim 9, Figure 3 of Denysenko et al discloses the heat exchange apparatus including the tube bundle 14 is vertically supported by the connection means 24, which in turn is supported on top of the containing means 11.

Regarding claim 16, Denysenko et al discloses hooking means 30 arranged at the end of the tube bundle 14 and operably connected to connection means 24.

Regarding claim 18, Figure 3 of Denysenko et al discloses the tube bundle 14 extending in a Z-direction (i.e. left to right).

Regarding claim 20, Denysenko et al discloses the heat exchanger unit is for steam generators.

Claims 1, 3-4, 9, 16-18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolowodiuk et al. Wolowodiuk et al discloses a heat exchange unit comprising a bundle of tubes 44 for heating water; containing means 12 for a heating fluid; connection means 52

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operatively connected to the upper end of the bundle of tubes 44 and structurally separate from the containing means 12.

Regarding claim 3, Figure 1 of Wolowodiuk et al discloses the connection means 52 extends in a plane perpendicular to the vertically extending bundle of tubes 44.

Regarding claim 4, Figure 1 of Wolowodiuk et al discloses an inlet opening 48 and an outlet opening 49 for the bundle of tubes 44 located in an upper area of the heat exchange unit in correspondence to the connection means 54.

Regarding claim 9, Figure 3 of Wolowodiuk et al discloses the heat exchange apparatus including the bundle of tubes 44 is vertically supported by the connection means 54, which in turn is supported on top of the containing means 12.

Regarding claims 16-18, Wolowodiuk et al discloses unlabelled hooking means (i.e. eyebolt) attached to the manifold defining inlet opening 48 and an outlet opening 49 at the top of the vertically (i.e. Z-direction) extending bundle of tubes 44.

Regarding claim 20, Wolowodiuk et al discloses the heat exchanger unit is for steam generators.

Claims 1, 3, 6-16, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Bailey. Figures 1-2 and 8 of Bailey discloses a heat exchange unit comprising a tube bundle 22 for heating water; containing means defining a furnace chamber 10 and gas pass 12; and connection means 30 operatively connected to the upper end of the tube bundle 22 and structurally separate from the containing means.



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Regarding claim 3, the connection means 30 extends perpendicular to the vertically extending tube bundle 22.

Regarding claims 6-8 and 10-14, Figures 1 and 3 of Bailey discloses an unlabelled box-shaped collection tank enclosing the connection means 30 with a separating plate/frame (i.e. refractory 48 and insulation 50) providing a fluid tight seal partially crossed by the tube bundle 22.

Regarding claim 15, it has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Regarding claim 16, Figure 2 of Bailey discloses hooking means 34 arranged at the end of the tube bundle 22 and operably connected to connection means 30.

Regarding claim 18, Figures 1 and 3 of Bailey discloses the tube bundle 22 extending in a Z-direction (i.e. left to right).

Regarding claim 20, Bailey discloses the heat exchanger unit is for boiler units, i.e. steam production.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kropp et al, Denysenko et al, Wolowodiuk et al or Bailey in view of Bell.

Kropp et al, Denysenko et al, Wolowodiuk et al or Bailey discloses all the claimed limitations except staggered tubes in the bundle.

Bell discloses a heat exchange unit comprising a bundle of tubes 101 disposed with a containing (i.e. shell), wherein the tubes 101 are staggered with respect to the second fluid for the purpose of improving the heat transfer efficiency (abstract).

Since Kropp et al, Denysenko et al, Wolowodiuk et al or Bailey and Bell are both from the same field of endeavor and/or analogous art, the purpose disclosed by B would have been recognized in the pertinent art of Kropp et al, Denysenko et al, Wolowodiuk et al or Bailey.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Kropp et al, Denysenko et al, Wolowodiuk et al or Bailey staggered tubes with respect to the second fluid for the purpose of improving the heat transfer efficiency as recognized by Bell.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ Leonard R. Leo /  
PRIMARY EXAMINER  
ART UNIT 3744

March 11, 2010